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Strict Liability for Dangerous Activities in Nordic Tort Law – an Adequate Answer to Late Modern Uncertainty?

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1. Introduction

In comprehensive diagnoses of contemporary society many social scientists emphasise that societal decision-making occurs under conditions of growing uncertainty. This was a basic theme in theories on late modern risk society, coined during the last decades of the 20th century.[1] Societal thinking became dominated by risk, referring both to risks due to technological changes and risks related to the cultural and societal environment. The focus was often on new catastrophic risks, like those related to the use of nuclear power, but also on somewhat more limited risks generated, for example, by new modes of transportation, the increasing use of various hazardous substances as well as broadening patterns of automation. Among societal risks the global risks related to the working of the financial market are obvious examples. In addition, to some extent it may be rather a question of growing risk perception in societal thinking than a real increase in risk patterns.[2] In general, chaos and ambivalence were presented as characteristic features of society.[3]

During the present century the uncertainty of decision-making seems to have grown further. The causality chains in an ever more complicated societal environment seem to be becoming increasingly complex as a consequence of disruptions brought about by globalisation, digitalisation and technology that advance at an ever growing speed. Uncertainty, also with regard to the working of the political system, seems almost to have become a dominating feature of contemporary society.

At the same time, however, there is a growing demand for societal decisions, as risks are created by human action or at least perceived as being related to human action. This creates the paradox of the risk society: the demand for decisions increases at the same time as the outcome of decision-making is increasingly uncertain and met with growing distrust. Under such conditions, legitimate decision-making appears as a learning process: management of societal complexity requires an experimental culture.[4] Instead of following dogmas, decision-makers are required to be able to flexibly adjust their decision-making patterns based on experience of the consequences of previous decisions.

This is clearly a challenge for law and regulation as well.[5] On the one hand it is difficult for law to cope with uncertainty;[6] on the other hand there is a constant demand for new regulatory measures, as new risks appear and security expectations are rising. This leads to conflicting demands on regulation, continuously

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[1] Ulrich Beck *Risikogesellschaft: Auf dem Weg in eine andere Moderne* (Suhrkamp, Frankfurt am Main, 1986) (translation: *Risk society: Toward a New Modernity*).

[2] Niklas Luhmann *Soziologie des Risikos* (Walter de Gruyter, Berlin, 1991) (translation: *Sociology of Risk*).

[3] Zygmunt Bauman *Modernity and Ambivalence* (Polity Press, Oxford & Cambridge, 1991).

[4] Anthony Giddens "Living in a Post-Traditional Society" in Ulrich Beck, Anthony Giddens and Scott Lash (eds) *Reflexive Modernization* (Polity Press, Cambridge, 1994) 56 at 59 claims – concerning global risks – that "modernity has become experimental".

[5] I have analysed late modern uncertainty in relation to consumer law in Thomas Wilhelmsson "The Paradox of the Risk Society and the Fragmentation of Consumer Law" in Iain Ramsay and others (eds) *Risk and Choice in Consumer Society* (Ant N Sakkoulas, Athens, 2007) 1 and in relation to tort law (unfortunately in Swedish only) in my book Thomas Wilhelmsson *Senmodern ansvarsrätt, Privaträtt som redskap för mikropolitik* (Kauppakaari, Helsingfors 2001) (translation: *Late Modern Liability Law, Private Law as a Tool for Micropolitics*).

[6] Ulrich Beck "The Reinvention of Politics: Towards a Theory of Reflexive Modernization" in Ulrich Beck, Anthony Giddens and Scott Lash (eds) *Reflexive Modernization* (Polity Press, Cambridge, 1994) 1 at 5 diagnoses the risk society as a society in which "the social, political, economic and individual risks increasingly tend to escape the institutions for monitoring and protection in industrial society."

pushing both for new regulation and for deregulation, as well as for re-regulation in various combinations. Such conflicting demands also affect basic private law, and, in terms of risk management, tort law in particular. It seems that law has to become experimental as well.

Indeed, court activism based on tort law has in legal discourse been offered as a response to this challenge. In German doctrine Gert Brüggemeier has noted that at least some answers to the challenges related to uncertainty and risk can be given by tort law.[7] He has described contemporary tort law as a learning process that brings together courts, legal science, representatives of the interests involved, the media, public bodies and semi-private regulatory bodies in dealing with complex risks.[8] In German discourse others have uttered similar views, phrasing the catchword "risk steering through liability".[9] As uncertainty cannot be removed by public law regulation, court procedures based on private law may function as a kind of last resort for those needing legal protection.[10]

This is of course not a German discourse alone. Such mechanisms are under discussion in other parts of Europe as well.[11] The discussion has not halted with the shift of the millennium. On the contrary, there is an ongoing discussion on tort law as a device for risk regulation during the 21st century, too.[12]

The focus on learning is not restricted to tort law and risk only, but similar analyses relate to private law in general. Hugh Collins has noted how the reorientation of legal discourse "towards the instrumental reasoning of welfarist regulation" tends to promote a law that is able to learn from societal experience:[13]

> The trajectory of legal evolution alters from the private law discourse of seeking the better coherence for its scheme of principles to one of learning about the need for fresh regulation by observations of the consequences of present regulation. Information about the world, especially market practices, has to be gathered and reconstituted in a form which enables the legal discourse to adjust its own internal operations and regulatory outcomes.

From a common law perspective Anthony Ogus has summed up the role of the courts in learning to cope with risks in an illustrative way: [14]

> Of course, judges undertake this task in a broad, impressionistic manner; there is no expectation that they will quantify the costs and benefits. Further, although the adjudication of private law claims enables the victim to have a direct input into the decision-making process, the adversarial setting also means that judges will be almost wholly reliant on the parties for the data. Also, they are likely to possess neither expertise on the scientific or technical dimensions of the case nor experience of cost-benefit analysis. At the same time, these

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[7] Gert Brüggemeier "The Control of Corporate Conduct and Reduction of Uncertainty by Tort Law" in Robert Baldwin and Peter Crane (eds) *Law and Uncertainty, Risks and Legal Processes* (Kluwer, London, 1997) 57 at 63.
[8] Gert Brüggemeier *Prinzipien des Haftungsrecht* (Nomos, Baden-Baden, 1999) (translation: *Principles of Liability Law*) at 31.
[9] Fritz Nicklisch "Risikosteuerung durch Haftung im deutschen und europäischen Technologie- und Umweltrecht" in Friedrich Graf von Westphalen and Otto Sandrock (eds) *Lebendiges Recht – Von den Sumerern bis zur Gegenwart* (Verlag Recht und Wirtschaft, Heidelberg, 1995) (translation: "Risk Steering through Liability in German and European Technology and Environmental Law" in *Living Law – from the Sumerians to the Present*) 617.
[10] Reinhard Damm "Risikosteuerung im Zivilrecht – Privatrecht und öffentliches Recht im Risikodiskurs" in Wolfgang Hoffmann-Riem and Eberhardt Schmidt-Assmann (eds) *Öffentliches recht und Privatrecht als wechselseitige Auffangordnungen* (Nomos, Baden-Baden, 1996) (translation: "Risk Steering in Civil Law – Private Law and Public Law in Risk Discourse" in *Public Law and Private Law as Reciprocal Catching Orders*) 85 at 136.
[11] See, for example, the interesting paper by Jenny Steele "Damage, Uncertainty and Risk: Trends in Environmental Liability" in Thomas Wilhelmsson and Samuli Hurri (eds) *From Dissonance to Sense: Welfare State Expectations, Privatisation and Private Law* (Ashgate, Aldershot, 1999) 479.
[12] See for example, Elbert R de Jong "Tort Law and Judicial Risk Regulation: Bipolar and Multipolar Risk Reasoning in Light of Tort Law's Regulatory Effects" (2018) 9 European Journal of Risk Regulation 14, with references.
[13] Hugh Collins *Regulating Contracts* (Oxford University Press, Oxford, 1999) at 8.
[14] Anthony Ogus "Risk Management and 'Rational' Social Regulation" in Robert Baldwin (ed) *Law and Uncertainty, Risks and Legal Processes* (Kluwer, London-The Hague-Boston, 1997) 139 at 141.

> very facts may enable them to take a more 'rounded' approach to the issues than is likely within a bureaucratic context. To some extent, that approach should reflect public attitudes to risk. Judicial independence of government should mean that short-term political considerations are not taken into account.

In short, case law based on sufficiently flexible rules is offered as a solution – or rather, as one part of the solution – to the problem, namely how to deal with the challenge of uncertainty in late modern, globalised and digitalised risk society.

This adaptability of the law to continuously new challenges has above been described as a learning process. Learning indeed seems to be an appropriate metaphor for what is expected of law as a response to the uncertainties of contemporary society. I will here use the term "learning law" for a law that is able to flexibly channel experience based on new challenges in real life into its normative structure.

Tort law in particular has been presented as a learning law or at least as a part of law that could fulfil the learning functions required by contemporary society. A learning tort law, in other words, is a tort law that can develop through flexibly channelled real-life experience introduced into its established patterns of reasoning. Although all participants in the legal game, from the legislator to doctrine and the courts, are participating in this endeavour, case law clearly plays a significant role with regard to the responsiveness of the system. Courts work at the meeting point where new real-life questions in concrete form encounter the normative structure. A tort law that can be flexibly developed by case law in accordance with societal needs and a sense of justice is a learning tort law.

This brings me, finally, to my chosen topic. Nordic private law – and I here deal with the laws of Denmark, Finland, Norway and Sweden – is well known for being flexible and instrumentalist, including a legal engineering vision of law.[15] The rules of Nordic tort law are relatively flexible in comparison with other jurisdictions.[16] Against the background described above, it is natural to ask whether and to what extent Nordic tort law can function as a learning law, coping with uncertainty by dealing with new risks in an experimental fashion.

The idea of a learning law may be particularly relevant in the context of Nordic legal culture, as the general trust in the courts here is higher than in most other countries.[17] The appeal of such a theory might be very different in a country with less trust in the judiciary. "Learning" might not only mean achieving "good" solutions, it might bring law in a less fortunate direction as well. This paper should therefore not be read as a plea for unlimited judicial discretion, but only as an analysis of how the discretion the Nordic courts have, is used. To what extent and in what way can Nordic case law be described as a concretisation of the theory of a learning law, as developed in German and European legal discourse?

However, a comprehensive discussion concerning Nordic tort law from this point of view would require rather the space of a monograph than an article in a journal. I have therefore decided to test the question in relation to one particular theme, namely strict liability for dangerous activities. This doctrine, which is well known in many other jurisdictions as well, has been developed by Nordic scholars and Nordic courts without express authorisation in the Nordic Acts on torts. The doctrine seems to offer a good test bed for

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[15] Markku Helin *Lainoppi ja metafysiikka* (Suomalainen lakimiesyhdistys, Vammala, 1988) (translation*: Legal Dogmatics and Metaphysics*) at 437–438, 442–443 (the references are to the English Summary), Ole Lando "A Short Survey of the Laws of the Nordic Countries" in Ole Lando and others (eds) *Restatement of Nordic Contract Law* (Jurist- og Økonomforbundets Forlag, Copenhagen, 2016) 13 at 22-24.

[16] The last resort of flexibilisation being a broad general clause that allows the courts to adjust the amount of damages if liability is considered unreasonably burdensome with regard to the tortfeasor's and the injured party's economic situation and other circumstances, see for example, the Finnish Act on Torts (Vahingonkorvauslaki/Skadeståndslag 31.5.1974/412) ch 2, s 1(2).

[17] See Věra Jourová "The 2018 EU Justice Scoreboard" (Fact sheet, Directorate-General for Justice and Consumers, May 2018) at Figs 9 and 11: <https://ec.europa.eu/info/sites/info/files/justice_scoreboard_2018_factsheet_en.pdf>.

the question whether tort law really is able to increase learning about appropriate responses to new technological and societal risks, as it is directly geared towards the connection between liability and risk.

In other words, the question posed in this paper is: Has the doctrine and case law on strict liability for dangerous activities in the Nordic countries worked and can it work as a device for coping with uncertainty concerning complex risks in the way assumed by those advocating the use of tort law as a learning law? In order not to create unrealistic expectations in the reader, a very short preliminary answer may be provided at this point: even though the Nordic doctrine on strict liability for dangerous activities offers an excellent tool for cumulating experience concerning the legal approach to new risks, the Nordic courts have used it to a varying degree and only relatively moderately.

One explanation of this moderate approach by the courts that I will return to in the last section of the paper is the fact that legislation in the Nordic countries has been rather responsive to new developments and Nordic law therefore contains many enactments on no-fault schemes and strict liability. As the examples are manifold and not the same in each country, it would require a paper of its own to describe these enactments.[18] Therefore only some examples will be mentioned in the following sections. In general Nordic tort law has been described as strongly insurance- and compensation-oriented. For personal injury in particular the basic compensation is offered by the general social insurance, and in addition there are several no-fault schemes, often enacted by law, but sometimes also introduced by a kind of collective agreements,[19] and tort law proper only covers the rest, if the prerequisites for liability are fulfilled.[20]

2. *Concretising the Questions*

The choice of test bed is easy to justify, in principle. The question of strict liability versus negligence-based liability is an important topic in tort law discourse in many countries. A good indication of this is the fact that one encounters this discourse in the debate on European harmonisation of private law as well. The issue is dealt with in the academic proposals concerning a unified European tort law. Both the tort law provisions of the Draft Common Frame of Reference[21] as well as the Principles of European Tort Law[22] include particular rules on strict liability, even though the main principle of course is negligence-based liability. As will be noted later, the concrete approach to the issue is not the same in these two bodies of European principles.

Therefore, one may presume that case law drawing the lines between the two approaches can function as a usefully illustrative test when discussing the readiness of the legal order to encounter new risks in a flexible way. However, one should mention a serious caveat in this respect. Tort lawyers are well aware of the fact that the borderline between strict liability and negligence is by no means clear, and that many intermediate forms of liability are blurring the divide. Negligence-based liability may be sharpened and brought close to strict liability through various legal mechanisms such as reversing the burden of proof or

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[18] Such a *Länderbericht* (*presentation country by country*) style of presentation would also be extremely boring.

[19] For example, the no-fault drug compensation scheme is in Finland introduced through a collective insurance agreed by the drug industry and the drug importers (in force 1 July 1984; on the present Pharmaceutical injuries insurance, see <www.laakevahinko.fi/en/in-english/>), and in Sweden the pharmaceutical companies can join a similar collective insurance scheme (<https://lff.se/>).

[20] This approach has a long history. See Jan Hellner "The Swedish Alternative in an International Perspective" in Carl Oldertz and Eva Tidefelt *Compensation for Personal Injury in Sweden and other Countries* (Juristförlaget, Stockholm, 1988) 17.

[21] Christian von Bar, Eric Clive and Hans Schulte-Nölke (eds) *Principles, Definitions and Model Rules of European Private Law, Draft Common Frame of Reference (DCFR)* (Outline Edition, Sellier, Munich, 2009), available at <www.law.kuleuven.be/personal/mstorme/2009_02_DCFR_OutlineEdition.pdf >

[22] *European Group of Tort Law: Principles of European Tort Law* (PETL) (Springer, Vienna, 2005), available at <http://www.egtl.org/>

applying a severe negligence assessment. Therefore, an analysis of case law that focuses exclusively on the formal divide between strict liability and negligence would not convey a complete picture of the situation.[23] However, even though I acknowledge the validity of this objection I believe that for the purpose of this paper a focus on the formal use of strict liability as an exception to the negligence principle, disregarding the middle ground, can provide sufficient elucidation of the general picture. This is because the difference between the two sides of the divide is clear in principle: negligence-based liability focuses on fault or guilt and strict liability on risk. The issue at hand is how law reacts to new risks.

In the Nordic countries, as in many other places, cases of strict liability have evolved in a fragmented way. In addition, even though many parts of private law are harmonised in the Nordic countries, nevertheless clear variations are evident between the countries concerning the issue at hand. It is in other words both nationally and in a Nordic context easy to express a typical legal coherence-praising critique against both fragmentation and variations. However, as hinted at in the introduction, the lack of a coherent approach does not have to be seen as a deficiency, but may be seen as a strength as well, as the need for continuous learning processes under contemporary conditions of growing uncertainty may require a pointillistic, situation-bound approach to tort liability. In this paper the Nordic development of strict liability in tort is analysed from this less negative perspective.

I am here interested in particular in case law and jurisprudence as devices of learning and experimental development of law. Therefore I will not give any detailed account of the abundance of relatively casuistic legislation introducing strict liability in a variety of situations in the Nordic countries. As a background it is important to bear in mind, however, that in the Nordic countries, too, the legislator has been an active participant in the learning processes that have expanded strict liability to new situations. These situations cover not only the usual suspects – traffic and workplace accidents – but several other situations as well. I will mention some examples later.

With these starting points the question posed in this paper can be approached in somewhat more concrete terms. The issue whether the doctrine and case law on strict liability for dangerous activities can in the Nordic countries be understood as a useful legal device for coping with uncertainty concerning complex risks can be illuminated by an analysis of questions such as the following.

First of all, it is interesting to look at the flexibility of the way in which the borderline between negligence and strict liability is drawn. Is the borderline flexible enough to allow for new solutions, and have the courts been ready to use that flexibility? How is flexibility balanced against stability? In order to have an impact, the new rules emerging in the learning process have to be stabilised as a part of the compensation system. The mirror of tort law is insurance, which requires calculability and collectivity.[24] It should be noted, however, that this stability requirement does not pose insurmountable obstacles for flexibility. Stability does not necessarily require a coherent body of fixed broad rules, as small, detailed areas of stability may suffice. As will be shown, the approaches in the different Nordic countries are not identical as to how systematically the issue is dealt with.

Secondly, in the Nordic setting an additional interesting question arises related to learning through case law: Does learning occur across borders? Are courts and jurisprudence in the Nordic countries eager to

[23] Nils Jansen "Principles of European Tort Law?" (2006) 70 Rabels Zeitschrift für ausländisches und internationales Privatrecht /The Rabel Journal of Comparative and International Private Law 732 at 751, 769 rightly criticises the use of this dichotomic approach in European harmonisation projects.

[24] Francois Ewald *L'état providence* (translation: The Welfare State) (Grasset, Paris, 1986) and Francois Ewald "Die Versicherungs-Gesellschaft" (1989) (translation: "The Insurance Society") 22 Kritische Justiz 385, in particular at 390.

learn from experience in other Nordic countries? This opportunity may expand the pool of experience on which possible learning processes are built.

Thirdly, as mentioned already, a functioning compensation order requires an element of collectivity. One element of this requirement relates to the nature of the subject of liability. The issue of collectivity is accordingly approached through the following question: To what extent are strict liability learning processes targeting the liability of businesses or other actors that can pulverise the risk?

Fourthly, as the uncertainty of contemporary society and the need for a flexible and learning tort law has been related to the ever faster development of new technological risks, it is natural to look at case law from the technology perspective as well. To what extent is Nordic case law on strict liability used to cope with new technological risks?

Finally, as this paper is based on my presentation at a conference on the ability of private law to respond to accident, illness and disability, it is natural to ask to what extent Nordic case law concerning strict liability has dealt with cases of personal injury. Does case law on strict liability have anything to contribute to this issue?

It is easy to assume that traditional tort law alone, even with flexible opportunities to create new cases of strict liability, cannot cope with the need for a law that is constantly developing on the basis of new experience. Courts may even fail precisely in cases in which their intervention is most needed. The well-known "floodgate argument" may induce a reluctance to embrace new solutions in the practically most important cases where the occurrence to be judged may result in damage to a large number of people. Instead of assuming the impossible, one should therefore rather analyse tort law litigation as a part of a flexible policy mix that uses opportunities across disciplines – offered, for example, by contract law, tort law and public law[25] – to cope with contemporary uncertainty. My question is not whether Nordic tort law is *the* solution to the need for a learning law, but rather whether it can contribute anything to the required mixture of various legal tools required to master this challenge.

3. Nordic Strict Liability: Enumerating and Generalising Methods

One may of course define and delimit the areas in which strict liability should prevail in a great variety of ways. In order to facilitate the analysis I will here, based on comparative discourse, and on a very general level distinguish two kinds of approaches to the issue.

One approach is to operate with a concrete list of activities on which strict liability is applied, and recognise that this list should be expanded predominantly by the legislator. In European harmonisation projects this seems to be the solution of the Draft Common Frame of Reference. According to this set of rules, strict liability would cover damage caused by the unsafe state of an immovable object, by animals, by defective products, by motor vehicles and by dangerous substances or emissions. Other accountability for the causation of damage would arise only if national law so provides.[26] I will call such an approach the *enumerating method*.

A broader approach is to use a general clause type of provision, often in addition to a list of particular situations, which broadly defines possible instances of strict liability. Typically this kind of general clause refers to the dangerous nature of the activity to be assessed. This gives courts more power to create and

[25] As recommended by Dieter Hart "Sozialschutsbezogene Normbildungsprozesse bei Risikoentscheidungen im Vertragsrecht" (1991) (translation: "Social security related norm creation processes related to risk decisions in contract law") 74 Kritische Vierteljahresschrift für Gesetzgebung und Rechtswissenschaft 363 at 376.
[26] DCFR, above n 21, at VI.-3:202-207.

develop new instances of strict liability. In Europe the Principles of European Tort Law has chosen this approach, which is here called the *generalising method*:[27]

> A person who carries on an abnormally dangerous activity is strictly liable for damage characteristic to the risk presented by the activity and resulting from it.

However, in this general clause the hurdle for applying strict liability is set rather high, as the provision requires the activity to be "abnormally" dangerous. Other variations of the generalising method may accept much lower levels of danger to trigger the opportunity to apply strict liability. For example, as will be shown below, many of the activities for which Nordic case law has established strict liability cannot naturally be labelled "abnormally dangerous".

Usually the issue is approached by a method that combines both enumerating and generalising elements. When comparing Nordic laws, however, the distinction between predominantly enumerating and generalising approaches is useful, because it illuminates the variations in the paths chosen in the Nordic countries. When describing Nordic tort law in the light of this pair of concepts, clear differences become apparent. Bearing in mind that the Nordic countries have for more than a century striven towards harmonising private law in the Nordic sphere,[28] and have succeeded fairly well in the area of contract law,[29] differences in the area under discussion present a particularly interesting indication of the concrete nature of national learning processes.

It is important to note that there were no strong path dependencies that would have forced development in different directions. On the contrary, the starting point for development, more than a century ago, was at least partially joint. The 1914 monograph by the Danish scholar Henry Ussing on liability for dangerous activities[30] was highly influential in the whole area and was discussed throughout the Nordic countries.[31] Much of the initial development in the Nordic countries was related to this discourse.

However, developments soon went in somewhat different directions in the different countries. Generalising very strongly, Norway appears the most strict liability-friendly, at least when looking at the development of case law, whilst, paradoxically, courts in Henry Ussing's homeland, Denmark, show the least interest in creating new instances of strict liability. Finland and Sweden can be placed somewhere in between. In the following discussion I will look more closely at each Nordic country, ordered according to how supportive to strict liability they appear.

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[27] European Group of Tort Law Principles of European Tort Law (Springer, Vienna, 2005) at art 5:101(1). For a similar approach in the USA, see American Law Institute *Restatement of Torts* (2nd ed, Philadelpia, 1977)§ 520, American Law Institute *Restatement of Torts* (3rd ed, Philadelpia, 2009)§ 20(b).

[28] And nowadays even formally committed to do so: the 1962 Helsinki agreement on cooperation between the Nordic countries (Samarbetsöverenskommelse mellan Danmark, Finland, Island, Norge och Sverige, FördrS 28/1962 (signed 23 March 1962, entered into force 1 July 1962)), art 4 expressly obliges the Nordic countries to make their private law as similar as possible. This treaty was registered with the United Nations: United Nations Treaty 434 UNTS 6262 (registration period June 1962-July 1962).

[29] See Lando and others (eds) *Restatement of Nordic Contract Law* (Jurist- og Økonomforbundets Forlag, Copenhagen, 2016).

[30] Henry Ussing *Skyld og skade: Bør erstatningspligt udenfor kontraktsforhold være betinget af culpa?* (GEC Gad, Copenhagen, 1914) (translation: *Fault and damage: Should liability not based on contract require negligence?*).

[31] Håkan Andersson *Ansvarsproblem i skadeståndsrätten* (Iustus Förlag, Uppsala, 2013) (translation: *Liability Problems in Tort Law*) at 152-153.

Before looking at case law, one should mention, however, that all the Nordic countries have a fair number of legislative acts on strict liability concerning particular activities, relating, for example, to transportation, energy and the environment. The examples are manifold, and as it is difficult to find a consistent line in each national setting,[32] clearly the variations are large when comparing the Nordic countries. There are many particular pieces of legislation that I cannot enumerate in detail here. It is just important to note that not only courts participate in legal learning processes. Casuistic legislation on strict liability – sometimes even too casuistic: in Sweden special legislation prescribes strict liability for damage caused by dogs, but not by cats[33] – contributes to the process as well. Continuous interaction between the legislative and judicial learning processes is important to bear in mind.

Only a few of the enactments are referred to later in the analysis of the law's development. As mentioned before, the focus in this paper is on the role of case law and jurisprudence. It should be noted, however, that many, but certainly not all, of the particular enactments' subjects can also be grouped under the general heading of dangerous activities. This strengthens the general understanding that strict liability may be used in connection with dangerous activities and offers support for analogies in case law.[34] Casuistic legislation is a part of the continuing discourse on strict liability and negligence in Nordic tort law.

Looking at case law, among the Nordic countries *Norway* is clearly most open towards developing new cases of strict liability. Norwegian professor Fredrik Stang, who in 1919 claimed that the negligence principle was not sufficient to handle the risks of an industrialised society and emphasised that the masses should be protected against individuals,[35] was highly influential.[36] Echoing Henry Ussing, Stang underlined that an activity was acceptable only if it brought benefits that were greater than the damage it caused. But as the benefit is greatest for the person reaping the profits of the activity, that person should also bear the costs.[37] This was particularly the case with regard to dangerous activities.

Inspired by these thinkers, the Norwegian courts have developed strict liability in many areas.[38] Through extensive case law, both courts and jurisprudence have been able to approach the issue in a generalising way, focusing on the elements that should have relevance in the assessment rather than only on particular situations. Generally a person or an entity whose activity causes more or less continuous risk for others should be strictly liable for damage caused by that activity and should bear the economic consequences when the risk materialises.[39] Several factors are to be taken into account when this starting point is concretised. They relate to assessment of the risk – can it be labelled extraordinary, is it typical of the activity and is it continuous? – and to placement of the risk – is risk

[32] For Denmark see Bo von Eyben and Helle Isager *Lærebog i erstatningsret* (8th ed, Jurist- og Økonomforbundets Forlag, 2015) (translation: *Textbook on Tort Law*) at 295.
[33] Lagen om tillsyn över hundar och katter (Lag 2007:1150) (translation: Act on Surveillance of Dogs and Cats) s 19, about an earlier act from 1943 introducing this distinction, see Jan Hellner *Skadeståndsrätt* (5th ed, Juristförlaget, Stockholm, 1995) (translation: *The Law of Torts*) at 180-181.
[34] Andersson above n 31, at 317 who notes, however, that one might argue *e contrario* as well.
[35] Fredrik Stang *Erstatningsansvar* (Aschehoug, Christiania, 1919) (translation: *Liability to Pay Damages)* at 43-45.
[36] Trine-Lise Wilhelmsen and Birgitte Hagland *Om erstatningsrett* (Gyldendal, Oslo, 2017) (translation: *On Tort Law*) at 83.
[37] Stang , above n 35, at 145.
[38] In its tobacco judgment (*Unni Lund v Tiedemanns Tobaksfabrik AS* Rt 2003 p 1546 (SC) at [39]) the Norwegian Supreme Court itself notes that strict liability in Norwegian law is developed through extensive case law.
[39] Wilhelmsen and Hagland, above n 36, at 218.

distribution fair and reasonable and what are the possible pulverising and preventive effects of liability?[40]

Assessment of risk does not even require that the relevant danger should be extraordinary or novel. A good example is the so-called trapdoor case.[41] Here, the Norwegian Supreme Court found strict liability in the case of a restaurant where damage was caused to a customer who had fallen through a trapdoor which was not locked. The Court interestingly – and this may be a special feature of Nordic culture – underlined that particular dangers had to be avoided in the context of restaurants, where alcohol was served.

The broad use of strict liability related to risks that are labelled extraordinary, typical and continuous is so generalising that it is possible to speak of a general principle of strict liability based on Norwegian case law. Some have even claimed that this case law goes further than is accepted not only in the other Nordic countries but also in other foreign jurisdictions.[42]

In *Finland* case law displays a combination of both the generalising and the enumerating method. The starting point here as well is the concept of dangerous activity.[43] However, Finnish Supreme Court cases are considerably fewer than those from Norway. There is also less generalising discussion concerning the criteria according to which dangerous activities should be defined in modern Finnish doctrine.[44] Doctrine often tends to enumerate situationally described cases in which strict liability has been constituted, such as liability for damage caused by use of explosives and ammunition as well as by activity including risk of fire, liability of the organiser of a car race for injury to a spectator and liability for damage caused by burst water pipes.[45] In this context there is also often mentioned a case on liability of the state for damage caused by mass vaccination against polio, even though the reason for strict liability was the collective and state-invited nature of the measure, rather than the danger related to the activity.[46]

Interestingly the Finnish Supreme Court relatively recently – in the 1990s – created a new broader case of strict liability that is relatively close to the notion of liability based on negligence. In these rulings liability is based on the existence of a defect, but the defect does not have to be shown to be the result of anyone's fault. This strict "deficiency liability" was in two subsequent cases established for the owner or user of machines or equipment with damage-causing defects or deficiencies.[47] The first case concerned personal injury to an employee caused by a falling part of a defective concrete mixer, whilst

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[40] At 220-234; Viggo Hagstrøm and Are Stenvik, *Erstatningsrett* (Universitetsforlaget, Oslo 2015) (translation: *The Law of Torts*) at 156-205.
[41] Rt. 1991 p 1303.
[42] Hagstrøm and Stenvik, above n 40, at 147.
[43] Mika Hemmo *Vahingonkorvausoikeus* (WSOYpro, Helsinki, 2005) (translation: *The Law of Torts*) at 95.
[44] The monograph by CH Ek *Bidrag till läran om utomobligatoriskt skadeståndsansvar vid rättsenlig verksamhet enligt Finlands gällande civilrätt* (Juridiska Föreningens publikationsserie, Helsingfors, 1943) (translation: *Contribution to the Doctrine of Non-Contractual Liability for Legal Activity According to Finnish Private Law*) has not received much attention. However, later attempts to formulate general criteria concerning strict liability are not lacking – an overview is given by Olli Norros "Vastaako kaukolämpötoimittaja putkivuodosta johtuvista vahingoista tuottamuksestaan riippumatta?" (translation "Is a supplier of distance heating liable without fault for damage due to broken pipes?") 117 Lakimies 80 at 83-84.
[45] Pauli Ståhlberg and Juha Karhu *Finsk skadeståndsrätt* (Talentum, Helsingfors, 2014) (translation: *Finnish Tort Law*) at 167-176.
[46] KKO 1995:53 (SC). As this case was brought against the state, it was not covered by the drug compensation scheme. The Supreme Court here also accepted a lower burden of proof concerning causality.
[47] "Bristfällighetsansvar", see the cases KKO 1990:55(SC) and KKO 1991:156 (SC).

the second case concerned a part of a crane, which, due to a construction defect, had tumbled over and hit someone on the head.

Some of the Finnish cases, like the car race case, demonstrate a readiness on the part of the courts to apply the principle of liability based on exceptionally dangerous activity to completely new situations. Therefore, even though doctrine often describes the prevailing situation simply by enumerating the activities for which strict liability is established, it is generally accepted that courts may expand the list when confronted with new cases.[48]

Later case law in Finland shows that the courts in Finland are prepared to introduce strict liability even for activities that cannot easily be labelled dangerous according to the natural use of language. A case from 1997 is illustrative, concerning fire caused in peat production. Here, the Supreme Court found liability to be strict, even though it expressly conceded that the activity as such did not fall within the 'dangerous' classification. However, as there was an obvious risk of fire that could lead to considerable damage related to the activity and as potential victims had limited opportunity to protect themselves compared to the ability of the peat producer to minimise risks and their consequences, the Supreme Court found that the producer should be strictly liable for damage by fire.[49] Continuing in a similarly more generalising mood, the Supreme Court in 2000 expressly noted that strict liability is also possible with regard to an activity that, as such, is not to be deemed dangerous, but to which is linked an element of danger which is not completely controllable.[50]

Again, in *Sweden* the principle of liability for damage caused by dangerous activity was accepted in the 1920s. The cases were here related to exceptionally dangerous military exercises and use of explosives.[51] Later, damage caused by a broken district heating pipe was added to the list[52] and a case concerning burst water pipes followed the same pattern.[53] Generally there have been few cases, compared to Norway and Finland, on strict liability that are not based on legislation, and Swedish legal doctrine has noted that the Swedish courts have not developed the law towards a wider use of strict liability.[54] However, as the pipe cases were followed up by others and the approach was broadened by a case establishing strict liability of a municipal kitchen for food infected by salmonella,[55] some have

[48] Ståhlberg and Karhu, above n 45, at 174.
[49] KKO 1997:48 (SC). This case as well as cases on strict liability for safety defects in machines or equipment place liability on the business that controls the device or the activity and consequently also controls the risk (see also the case mentioned in the next footnote). Therefore I have discussed elsewhere (Wilhelmsson *Senmodern ansvarsrätt* above n 5, at 247) whether one could also introduce a stabilising formula in tort law that echoes the internationally recognised contract law formula that a business should be liable for what is deemed not to be beyond its control (United Nations Convention on Contracts for the International Sale of Goods, art 79) – or perhaps in tort law formulated positively: for what is deemed to be within its control. This formula could offer a basis for rationalising the concrete situation-bound discourse that strives to combine flexibility with stability and to balance economic power and liability. In addition, reasoning based on control could help tackle a challenge that appears crucial in contemporary internationalised tort law adjudication: under what conditions is it possible to pierce the corporate veil and bring a mother company to justice for injury caused by its daughter? The focus on control (of the daughter) in such cases seems realistic and to the point.
[50] *A v ABB Strömberg Service Do 2 Oy* KKO 2000:72 (SC).
[51] Hellner, above n 33, at 178.
[52] NJA 1991 s 720 (SC).
[53] NJA 1997 p 468 (SC).
[54] Hellner, above n 33, at 178.
[55] NJA 1989 s 389 (SC).

proclaimed the "return of strict liability" in Swedish case law.[56] So perhaps Sweden at the moment can also be described as having established a combination of enumerating and generalising methods.

Finally, in *Denmark* one can find some court decisions where strict liability was established without support from legislation. Of course, the Dane Henry Ussing doctrine acknowledges the concept of dangerous activity here as well. However, the cases are few in which the court has not only strengthened negligence-based liability in various ways, but has proceeded to strict liability. In addition to some cases concerning liability towards neighbours,[57] one finds cases resembling case-law in the other Nordic countries: municipal liability for damage because of a burst water pipe or gas pipe has been considered strict.[58] As the most important cases were decided in the 1980s, with no follow-up later, doctrine has concluded that the lines drawn by the Supreme Court are not in doubt and that there seems to be little need to expand the area of strict liability, as other methods of strengthening liability can be used instead.[59] It is said to be obvious that Ussing's suggestion about strict liability for dangerous activity has not become living law.[60] However, it cannot be ruled out that the Danish courts might in the future become more active in this direction.[61]

Summing up the Nordic approaches, one encounters a combination of the enumerating approach and the generalising approach, based on a vague conception of 'dangerous activity'. In some of these countries, in particular in Norway, the courts and jurisprudence are fairly generalising, whilst in others, in particular in Denmark, they rather prefer a (brief) enumeration. From the perspective of a learning law, a balanced combination of generalisation and enumeration is probably most preferable. I will analyse the Nordic approach(es) from the this perspective in the following.

4. Nordic Strict Liability as a Vehicle of Learning Law

As noted above, a well-functioning learning tort law requires a combination of flexibility – which enables accumulation of learning through practice – and islands of stability, which are needed to gain sufficient calculability for an insurance logic to operate. The Nordic combination of a generalising approach, assessing dangerousness and fair risk-distribution, and an enumerating approach might – well applied – respond to this combination of needs. The general clause on dangerous activities offers the required flexibility, whilst the growing case list, including particular legislation, pictures islands of stability and calculability.

The opportunity to use strict liability supports a reasoning that focuses directly on assessment of risk and the fairness of the outcome rather than dressing these issues in the rather fictitious terminology of negligence. In particular the Norwegian way of analysing risk in combination with fairness, pulverisation and prevention[62] offers a productive scheme for confronting new risks in a learning fashion. The possibility of such reasoning in the concrete assessment of a risk that has actually materialised can be a useful instrument for legal learning.

In other words, Nordic doctrine on strict liability for dangerous activities, including both generalising and enumerating approaches, seems to offer a both systematically and substantively effective

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[56] Andersson, above n 31, at 313.
[57] von Eyben and Isager, above n 32, at 186-191.
[58] *Copenhagen Water Supply Company v Uniform* UFR 1983.86 H (SC); and *Helsingor v Jonsbo* UFR 1983.895 H (SC).
[59] von Eyben and Isager, above n 32, at 185.
[60] At 205.
[61] This is discussed by von Eyben and Isager, above n 32, at 206-207.
[62] Wilhelmsen and Hagland, above n 36 at 220-234.

instrument for courts that are eager to contribute to learning how to deal with the complex risks of contemporary society. However, this is just an opportunity. One has to take a closer look at the content of case law, in the light of the concretised question posed at the beginning, namely to be able to evaluate how and to what extent courts really have made use of this opportunity.

Clearly some learning has occurred, as the courts in all Nordic countries have expanded the field of strict liability in a situation-oriented fashion. However, there are indications that Nordic courts have not always been as bold as they should be in entering new territory. They might have been held back by the well-known "floodgate argument", fearing that opening the doors for new liabilities would lead to an uncontrollable growth of litigation. The Finnish cases, where an employer was not liable for asbestos-related injury to employees, could be mentioned as examples of such caution.[63] However, in these cases employees had had most of their losses compensated through mandatory insurance for workplace accidents and the businesses sued were not trading in asbestos.[64] Another similar case in which one might feel the presence of a floodgate argument is the Norwegian tobacco case, in which a producer of tobacco was not considered strictly liable for personal injury due to smoking.[65]

As far as learning has occurred, the open structure of Nordic tort law has enabled Nordic courts to learn across borders. Despite the fact that the approach to use of the principle of strict liability for dangerous activity has been somewhat different in the different Nordic countries, one can find several examples of cross-border exchange of experience. This may even be explicit: for example the Swedish Supreme Court expressly referred to Danish and Norwegian case law as support for strict liability in the broken district heating pipe case.[66] In academic discourse on the issue some have also been very eager to draw inspiration across Nordic borders.[67] As was easy to note in the description of case law, some of the examples of case law-based strict liability seem very similar in several Nordic countries: the cases on burst water and other pipes are perhaps the best examples of this.[68]

Nordic case law on strict liability also seems well in line with the demands of the insurance society to steer liability toward subjects that can collectivise risk and so make it calculable. In Norway, in particular, the criteria used in generalising case law directs the focus on the liability of businesses that achieve their profit through activity that can be labelled dangerous. According to the established view, liability should follow if an activity includes a continuous risk that can be calculated and included in operating costs.[69] In Finland, too, the liability of businesses is in the focus and in case law strict liability is only seldom placed on others than businesses.[70] As is noted in Finnish doctrine, the same possibilities of systematic risk management are present in entities other than businesses, such as public entities, and they should therefore be included as possible subjects of strict liability as well.[71] A

[63] KKO 1998:87(SC) and KKO 1998:88(SC).
[64] Ståhlberg and Karhu above n 45, at 174.
[65] *Unni Lund v Tiedemanns Tobaksfabrik AS*, above n 38.
[66] *AL v Drefvikens Energi AB* NJA 1991 s 720 (SC).
[67] Andersson, above n 31, at 308-312 expressly uses the Norwegian experience to discuss the opportunity to develop Swedish law.
[68] In addition one could mention case law on explosives and similar activities (in addition to the cases already mentioned one could refer to the Norwegian cases Rt 1909 s 851 (SC) and Rt 1917 s 202 (SC)). This case law was, however, already established a hundred years ago, long before the discourse on contemporary societal complexity.
[69] Wilhelmsen and Hagland, above n 36,at 229.
[70] Hemmo, above n 43, at 98; the same goes for particular legislation on strict liability, Ståhlberg and Karhu above n 45, at 139.
[71] At 99.

good example here is the Finnish vaccination case.[72] In Denmark, too, courts have referred to the opportunity for economic planning and calculability of risk as an argument – here, however, speaking in favour of strict liability on the part of municipal actors. Doctrine has discussed whether or not this line of argument could be applied to businesses as well.[73]

It is interesting to note that in all the Nordic countries a typical case – in which there clearly has been exchange of experience across borders – has been the liability of a public entity (a municipality or similar entity) in cases where water, gas or heating pipes have been broken and thereby caused damage. These cases are interesting also because they show the flexibility of the standard applied: It is openly admitted that the activity cannot be classified as particularly dangerous, but liability has been based on a kind of calculable inevitability.[74] The Finnish case on strict liability for fire related to peat production could be mentioned as a similar example.[75] So, as far as Nordic courts are engaged in a learning process, the process seems to strive at stability offered by collectivised calculability. Rational risk management, not the level or degree of danger, has become the central issue, which is clearly a useful focus when pondering how to deal with societal and technological uncertainty.

The need for a learning law is evident in relation to rapidly developing technology. New technology constantly challenges established law. If Nordic case law was really experimental, one would expect to find interesting cases related to such technology. However, in this area the material is disappointing. Nordic case law does not offer striking examples of legal learning processes related to new technology.

Instead, interesting examples of how tort law can react to modern technological issues can rather be found in some of the pieces of legislation on strict liability that form a part of the Nordic system. A good example is the Finnish act on gene technology. This regulates damage caused by genetically modified organisms and by the use of such organisms, using strict liability as the basis of liability.[76] From Finnish law one could also mention another good example: The needs of the information society are reflected in a couple of Finnish acts on various kinds of digital registers on persons, on titles, mortgages and real estate, on shares and on vessels. In these enactments the liability of the keeper of the register has consistently been made strict.[77] These examples, and others from the other Nordic countries, illustrate the need to look at the field of strict liability as a whole, in which both the legislature and the courts are actively engaged in legal learning processes.

Even though Nordic case law does not offer any striking examples of reactions to regulatory needs with regard to new technology, it has at least developed an interesting device for dealing with some of the problems related to technology. Combining a kind of enumerating approach and a generalising approach, some courts have prescribed strict liability for a user of machines or equipment suffering from defects or deficiencies that cause damage. Such liability for businesses has been introduced by

[72] KKO 1995:53, above n 46.
[73] von Eyben and Isager, above n 32, at 196.
[74] Wilhelmsen and Hagland, above n 36, at 219; Hellner, above n 33, at 179; and Andersson above n 31, at 315.
[75] KKO 1997:48 (SC).
[76] Geenitekniikkalaki/Gentekniklagen, 377/1995 Sec 36 (as amended by Act 847/2004) (translation: The Gene Technology Act). This legislation is based on EU law, but EU law does not prescribe any provisions on private law liability.
[77] Ståhlberg and Karhu above n 45, at 163-166.

the Supreme Court in Finland,[78] at least for cases involving personal injury.[79] The other Nordic countries, too, have seen discussion and case law on liability for defects in machines or equipment, with liability being either described upfront as strict or being made at least semi-strict through a severe assessment of negligence.[80] This case law can be said to reproduce the starting point of European Union product liability law according to which a business, the producer, is strictly liable for safety defects in its products,[81] but against a new subject, the business using the product. Perhaps product liability law has here functioned as a useful example in providing learning about one flexible way to deal with safety issues. If the Nordic courts continue to follow this road – case law is not completely unambiguous – and embrace the idea that users of machines and equipment should be strictly liable for damage caused by equipment that is not as safe as the public is entitled to expect, this may become a useful tool for dealing with damage caused by new technology.

Summing up the assessments in this section of the paper one arrives at a rather unsettled general *conclusion* regarding the usefulness of the Nordic doctrine and case law on strict liability for dangerous activities as a device for learning how to cope with uncertainty. On the one hand it is evident that the doctrine, in particular in the way it has evolved in Norway and Finland, offers a viable instrument for courts wishing to contribute to legal learning processes and some learning across the borders has indeed happened as well. On the other hand it seems that the Nordic courts have not generally been very bold in making use of this opportunity. However, some bolder steps can be recognised as well, such as the focus in some case law on calculable inevitability rather than on dangers in the classic sense as well as the move towards strict or semi-strict liability for safety of machines and equipment.

5. Solving the Issue of Personal Injury?

Finally, as this paper is based on my presentation at a conference on personal injury, concerning the ability of private law to respond to accident, illness and disability, it is interesting to discuss whether and in what way the Nordic approach to dangerous activities can have something to contribute with regard to this issue. It is easy to see that many of the cases referred to above are not related to personal injury. The leading example of a joint approach between the Nordic countries, the cases on damage caused by various kinds of broken pipes, falls into this category. One may legitimately ask whether the development here described has any real significance with regard to personal injury.

At the outset, the issue of strict liability for dangerous activity should be particularly important with regard to personal injury. In legal reasoning concerning application of strict liability for dangerous and risky activity, the gravity of possible damage is usually mentioned as one important criterion when assessing risk. The risk of personal injury is normally – and rightly so – considered graver than the risk of economic loss alone. This being the starting point, it is natural to ask why there are so few personal injury cases among the cases mentioned above. One might expect that the situation should be the reverse and that courts would tend to use strict liability in particular in situations where there is a considerable risk of personal injury.

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[78] KKO 1990:55(SC), KKO 1991:156 (SC), KKO 1995:108 (SC) and KKO 2000:72 (SC).

[79] Compare Supreme Court, KKO 1992:3, in which the principle was not extended to a defect in a payment system. Ståhlberg and Karhu above n 45, at 172 suggest that the court was reluctant to use the strict "deficiency liability", because the case did not deal with personal injury.

[80] Andersson, above n 31, at 159.

[81] Defined as lack of 'safety which a person is entitled to expect', see Council Directive 85/374/EEC on the Approximation of the Laws, Regulations and Administrative Provisions of the Member states Concerning Liability for Defective Products (Products Liability Directive) [1985] OJ L 210/29 at art 6.

However, looking more closely at the issue, the answer is rather self-evident. Personal injury cases based on the principle of liability for dangerous activity load are few, because the most important sources of personal injury are already covered by legislatively enacted strict liability. Special legislation prescribing strict liability, often in combination with mandatory insurance – or even the other way around: mandatory insurance superseding tort law – has taken care of the issue. These compensation systems are often perceived as based on insurance rather than tort law.

As in most countries elsewhere, the Nordic countries have mandatory traffic insurance covering, for example, personal injury. For employment-related workplace accidents there are mandatory insurance schemes financed by employers. So, for the two biggest sources of personal injury, insurance schemes are in operation and there is little need for additional case law in this area based on the general doctrine of dangerous activities. These schemes are sometimes not even discussed in some of the typical textbooks on tort law, as insurance is the basis for compensation.[82]

In addition to these two most obvious cases, one finds various schemes, again combining strict liability and mandatory insurance, for personal injury due to drugs as well as injury in patient care in the Nordic countries.[83] General product liability, as prescribed by the EU Product Liability Directive, is strict as well, even though no mandatory insurance is involved. In practice, of course, businesses usually have product liability insurance of some kind. Many other examples of legislative introduction of strict liability that is relevant with regard to personal injury could be mentioned as well. Particular enactments in the areas of transportation and energy often include some form of strict liability.[84]

Of course, for the well-known areas that produce the bulk of personal injury cases in contemporary society, traffic and work, it is important in legal decision-making to be as close as possible to the stability end of the stability-flexibility scale. When most cases are familiar and well-known as to their nature, there is less need for flexible learning, but considerable need for quick and easy administration of the system. The interests of the injured require a stable system. Therefore legislative solutions combining strict liability and insurance are natural in this context.

However, an approach to strict liability that is based on particular enactments concerning particular activities will always leave some empty spots. Case law as a learning mechanism is required to fill these empty spots when societal justice seems to call for a tort law reaction to changes in society and technology. Several of the cases mentioned above do relate to personal injury and introduce strict liability for activity leading to such injury. Nordic case law on strict liability for dangerous activities thereby offers a contribution, perhaps modest but still worth mentioning, to the learning patterns required by late modern uncertainty, including in relation to personal injury.

Looking at Nordic case law we now know, besides the obvious cases of damage caused by the use of explosives and similar activities, that the organiser of a car race (and probably other similarly

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[82] Ståhlberg and Karhu above n 45, explained at 143. These systems or parts of them are included, however, in Hellner , above n 33, at 277-300; von Eyben and Isager, above n 32, at 202-205, 209-235; Hagstrøm and Stenvik, above n 40, at 272-299, 338-347; and Wilhelmsen and Hagland, above n 36, at 185-217 (under the heading 'strict liability with financing').

[83] Wilhelmsen and Hagland, above n 36, at 203-217; Hagstrøm and Stenvik, above n 40, at 317-337; Ståhlberg and Karhu above n 45, at 153-158 and Hellner , above n 33, at 301-307, 327-329.

[84] For example, in Finland, Raideliikennevastuulaki/Lagen om ansvar i spårtrafik 113/1999, s 3 (translation: Act on Liability in Traffic on Track); Ilmailulaki/Luftfartslagen 1194/2009, s142 (translation: Act on Aviation); Sähköturvallisuuslaki/Elsäkerhetslagen 1135/2016, s 99 (translation: Act on Electricity Security); and Ydinvastuulaki/Atomansvarighetslagen 484/1972, s12 (translation: Act on Nuclear Liability).

dangerous competitions and events) in Finland is strictly liable for injury to spectators, and that the state bears strict liability for injury caused by mass vaccinations. Similarly in Sweden, a municipal kitchen bears strict liability for damage caused by salmonella (and probably other similar diseases). In Norway restaurants should not have trapdoors (and other similar "traps") that would endanger their alcohol-consuming guests. And what seems more important: throughout the Nordic countries the business user of machines and equipment is by strict (or at least semi-strict) liability forced to bear the risk if defects and deficiencies in equipment are causing personal injury. In all these cases case law has functioned as a learning mechanism extending strict liability to new types of situations which were not covered by strict liability before.

So, the *conclusion* as far as compensation for personal injury is concerned, echoing the conclusion in the previous section, is clear. The Nordic doctrine under scrutiny is not and cannot be a central vehicle for developing the law in this area, in particular when dealing with the sections of life that produce most of the cases. It might, however, occasionally function as a learning mechanism for filling the gaps remaining in the law concerning compensation for personal injury.

As technology quickly evolves and society changes there is a manifest need for such a learning mechanism, as long as one is not prepared to introduce an all-covering New Zealand model for compensating personal injury. No serious proposals have been made for such a solution in the Nordic countries, even though the New Zealand model certainly is known and analysed[85] in the Nordic countries as in other parts of the developed world.

[85] Criticised for the low benefits it offers, Jan Hellner "The Swedish Alternative in an International Perspective" in Carl Oldertz and Eva Tidefelt (eds) Compensation for Personal Injury in Sweden and other Countries (Juristförlaget, Stockholm, 1988) 17 at 26.